SINITSYN, K.D., kand.tekhn.nauk; KURBATOVA, Ye.A., starshiy nauchnyy
sotrudnik; UNANOV, G.S., starshiy nauchnyy sotrudnik

Improving the technology of the removal of hides from hog
carcasses. Trakt.i sel'khozmash. 30 no.10:5-12 O '60.
                                                  (MIRA 13:8)

        (Swine houses and equipment)
        (Hides and skins)

SINITSYN, N.; LIBERMAN, S.; ISAKOVICH, V.

Methods for enhancing the production of dry feeds. Mias.
ind. SSSR 32 no.5:45-47 '61. (MIRA 14:11)

1. Vsesoyuznyy nauchno-issledovatel'skiy institut myasnoy
promyshlenosti.
                (Feeds)
                (Meat industry—By-products)

SINITSYN, K.D., kand. tekhn. nauk; GNOYEV, P.S.; KRAVCHENKO, N.D.;
ANAN'YEV, V.I., otv. red.; MANVELOVA, Xa.S., tekhn. red.

[Testing new equipment for the manufacture of sausage]Is-
pytanie novogo oborudovaniia kolbasnogo proizvodstva. Mo-
skva, 1962. 87 p.   (MIRA 16:4)

1. Moscow. TSentral'nyy institut nauchno-tekhnicheskoy in-
formatsii pishchevoy promyshlennosti. 2. Vsesoyuznyy nauchno-
issledovatel'skiy institut myasnoy promyshlennosti (for
Sinitsyn, Gnoyev, Kravchenko).
                (Food machinery--Testing)

BARMASH, A.I., kand.tekhn.nauk; BARSUKOVA, A.P., mladshiy nauchnyy
     sotrudnik; GUSAKOVSKIY, Z.P., inzh.,red.; OCHKIN, V.A., inzh.,
     red.; GORBATOV, V.M., red.; SINITSYN, K.D., red.; LAVROVA, L.P.,
     red.; SHIPOV, V.P., red.; KARPOV, V.I., red.; RUMYANTSEVA, Ye.P.,
     tekhn. red.

[Technological instructions for the production of meat and meat
products] Tekhnologicheskie instruktsii po proizvodstvu miasa
i miasnykh produktov. Moskva, 1962. Sec. 11.[Canned meat]
Konservy. 1962. 641 p.   (MIRA 16:4)

1. Moscow. Vsesoyuznyi nauchno-issledovatel'skiy institut
myasnoy promyshlennosti. 2. Sotrudniki Vsesoyuznogo nauchno-
issledovatel'skogo instituta myasnoy promyshlennosti (for
Barmash, Barsukova).
               (Meat, Canned)

SINITSYN, K.D., kand.tekhn.nauk; LIBERMAN, S.G.; PETROVSKIY, V.P.,
starshiy nauchnyy sotrudnik

Intensification of the production process of dried feeds. Trudy
VNIIMP no.14:52-57 '62. (MIRA 16:8)

(Feeds—Drying)

VOYNOVA, I.A., starshiy nauchnyy sotrudnik; SINITSIN, K.P., kand. tekhn. nauk

Machine with continuous action for cattle hide flaying.
Trudy VNIIMP no.15:19-24 '63.   (MIRA 17.5)

LIBERMAN, S.G., kand. tekhn. nauk; PETROVSKIY, V.P., kand. tekhn.
    nauk; SINITSYN, K.D., kand. tekhn.nauk;

[Mechanized production of dry livestock feeds] Mekhaniza-
tsiia proizvodstva sukhikh zhivotnykh kormov. Moskva,
TSentr. in-t nauchno-tekhn. informatsii pishchevoi pro-
myshl., 1964. 36 p.   (MIRA 17:12)

SINITSYN, K.K.

GURVICH, Ye.I.; SINITSYN, K.K.

Electrolytic method for reducing thickness of samples for
magnetic and structural studies. Zav.lab. 22 no.10:1206-1207
'56.   (MLRA 10:5)

1.TSentral'nyy nauchno-issledovatel'skiy institut chernoy metal-
lurgii.   (Polishing, Electrolytic)
                               (Metallography)

SINITSYN, K.K.

BORZDYKA, A.M.; VITKINA, E.I.; RYL'NIKOV, A.P.; SINITSYN, K.K.; BERNSHTEYN,
M.L., red.; GOLYATKINA,A.G., red.izdatel'stva; ISLENT'YEVA, P.G.,
tekhn.red.

[Ferrous metallurgy of capitalist countries] Chernaia metallurgiia
kapitalisticheskikh stran. Moskva, Gos.nauchno-tekhn.izd-vo lit-ry
po chernoi i tsvetnoi metallurgii. Pt.5. [New quality steel and
methods of testing it] Borzdyka, A.M., and others. Stali novykh
marok i metody ispytanii. 1957. 282 p.   (MIRA 10:12)

1. Russia (1923-   U.S.S.R.) Ministerstvo chernoy metallurgii.
TSentral'nyy institut informatsii.
                    (Steel--Testing)

SINITSYN, L.F.; SKRIBNIK, E,Ya.; CHUDNOVSKIY, G.S. (Novosibirsk)

Sodium and potassium content in the blood plasma in patients with mitral stenosis. Vrach. delo no.3:131 Mr '64.   (MIRA 17:4)

1. Diagnosticheskoye otdeleniye (zav. - kand.med.nauk Ya.S.Vaynbaum) instituta eksperimental'noy biologii i meditsiny Sibirskogo otdeleniya AN SSSR i Novosibirskaya stantsiya perelivaniya krovi.

SINITSYN, L.N.

Problem of the antishock effect of aminazine and mepazine [with summary in English]. Biul.eksp.biol. i med. 45 no.3:70-72 Mr'58
(MIRA 11:5)

1. Iz laboratorii chastnoy farmakologii (zav. - deystvitel'nyy chlen AMN SSSR V.V. Zakusov) Instituta farmakologii i khimioterapii (dir. - deystvitel'nyy chlen AMN SSSR V.V. Zakusov) AMN SSSR, Moskva. Predstavlena deystvitel'nym chlenom AMN SSSR V.V. Zakusovym.
        (AUTONOMIC DRUGS, effects,
            10-(N-methyl-3-piperidylmethyl) phenothiazine on
            exper. shock (Rus))
        (SHOCK, experimental
            eff. of chlorpromazine, morphine & mepazine (Rus))
        (CHLORPROMAZINE, effects,
            on exper. shock (Rus))
        (MORPHINE, effects
            same)

KRUGLOV, N.A.; SINITSYN, L.N.

Effect of aminazine and mepazine on cerebellar and medullary inhibiting processes. Farm. i toks. 22 no.2:99-104 Mr-Ap '59.
(MIRA 12:6)

1. Laboratoriya chastnoy farmakologii (zav. - deystvitel'nyy chlen AMN SSSR prof. V.V.Zakusov) Instituta farmakologii i khimioterapii AMN SSSR).
                (CEREBELLUM, physiol.
                        inhib. processes, eff. of chlorpromazine &
                        pacatal (Rus))
        (MEDULLAR OBLONGATA, physiol.
                same)
        (CHLORPROMAZINE, effects,
                on cerebellum & medulla oblongata inhib.
                processes (Rus))
        (AUTONOMIC DRUGS, effects,
                pacatal, on cerebellum & medulla oblongata
                inhib. processes (Rus))

SINITSYN, L.N.

Effect of analgesics on the reactive potentials of the afferent systems of the brain. Farm. toks. 24 no.3:259-267 My-Je '61. (MIRA 15:1)

1. Laboratoriya chastnoy farmakologii (zav. - deystvitel'nyy chlen AMN SSSR prof. V.V.Zakusov) Instituta farmakologii i khimioterapii AMN SSSR.
(BRAIN)   (ANALGESICS—PHYSIOLOGICAL EFFECT)

SINITSYN, L.K.

Effect of morphine on reactive potentials of the cerebral cortex in afferent stimulation of various modality. Farm. i toks. 25 no.4: 387-394 Jl-Ag '62.

(MIRA 17:10)

1. Laboratoriya chastnoy farmakologii (zav. - deystvitel'nyy chlen AMN SSSR prof. V.V. Zakusov) Instituta farmakologii i khimioterapii AMN SSSR.

KISIN, I.Ye.; SINITSYN, L.N.

Prevention of disorders in the myocardial blood supply caused by
stimulation of the cerebral cortex by pharmacological agents. Vest.
AMN SSSR 18 no.1:18-23 '63.   (MIRA 16:2)

1. Institut farmakologii i khimioterapii AMN SSSR.
     (BLOOD—CIRCULATION, DISORDERS OF)   (CEREBRAL CORTEX)
                 (DRUGS—PHYSIOLOGICAL EFFECT)

SINITSYN, M., inzhener.

New type of radio transmitter for ships. Mor.flot 7 no.1:45-47
Ja '47.   (MLRA 9:5)
(United States--Radio--Transmitters and transmission)
(Radio--Installation on ships)

SINITSYN, M.

S̶I̶N̶I̶T̶S̶Y̶N̶,̶ ̶M̶.̶

Arctic Rgions

At an Arctic Station, M. Sinitsyn Geog. v. shkóle No. 3, 1952

9. Monthly List of Russian Accessions, Library of Congress, __September__ 1956, 2 Uncl.

SINITSYN, M.

SINITSYN, M.

In the Arctic Ocean. Vokrug sveta no.8:40-41 Ag '54. (MIRA 7:9)
(Arctic regions)

SINITSYN, M. (Kuybyshev)

Prompted by life. Zdorov'e 7 no.6:27-28 Je '61.   (MIRA 14:7)
(KUYBYSHEV—DAY NURSERIES)

MASLOV, L.A., inzh.; FEDOROVA, I.B., kand.tekhn.nauk (Moskva);
NOCHVIN, D.M., gosudarstvennyy sovetnik yustitsii II klassa;
SINITSYN, M. (Gor'kiy)

Protect nature, the storehouse of health. Zdorov'e 9 no.3:16-17
Mr '63.   (MIRA 16:5)
          (VOLGA RIVER—WATER POLLUTION)

SINITSYN, M. (Tula)

On the Upa River. Za. rul. 17 no.6:14-15 Je '59.   (MTRA 12:10)

(Tula—Motorboat racing)

SINITSYN, M. (Serpukhov)

Organized by the local club. Za rul. 17 no.7:14 Jl '59.
(MIRA 13:1)

(Serpukhov--Motorcycle racing)

SINITSYN, M.

    In Ungeny region. Za rul. 18 no.6:8 Je '60.   (MIRA 13:8)
               (Ungeny--Motorcycle racing)

SINITSYN, M.

Racing on the Bezymyannoye Lake. Za rul. 18 no.10:18-19 O '60.

1. Spetsial'nyy korrespondent zhurnala "Za rulem" Teruopol'.
(Tarnopol'—Motorboat racing)

SINITSYN, M., inzh.

Stand for mounting and dismounting tubeless tires. Avt. transp.
38 no.9:17-19 S '60.   (MIRA 13:9)
                        (Motor vehicles--Tires)

L 55075-65   EWT(m)/EWP(t)/EWP(b)   IJP(c)   JD

ACCESSION NR. AP5017998   UR/0186/64/006/005/0619/0621

16
B

AUTHOR: Zvyagintsev, O. Ye.; Sinitsyn, N. M.; Pichkov, V. N.

TITLE: Extraction of Na$_2$[RuNO(NO$_2$)$_4$OH]·2H$_2$O with aliphatic amines

SOURCE: Radiokhimiya, v. 6, no. 5, 1964, 619-621

TOPIC TAGS: sodium compound, chemical labelling, ruthenium, amine, chemical separation, nitric acid, solution property ν1

Abstract: The sodium salt of tetranitrohydroxonitrosoruthenium, labeled with radioactive ruthenium-106, was used to study its behavior during extraction from nitric acid solutions by aliphatic amines: tri-n-octylamine [(n-C$_8$H$_{17}$)$_3$N], tri-n-decylamine [(n-C$_{10}$H$_{21}$)$_3$N], tri-n-laurylamine [(n-C$_{12}$H$_{25}$)$_3$N], di-n-hexylamine [(n-C$_2$H$_{13}$)$_2$NH], and n-dodecylamine [n-C$_{12}$H$_{25}$NH$_2$]. Extraction was conducted at room temperature and a 1:1 phase ratio; initial solution 0.005 M with respect to ruthenium; equilibrium aqueous phase after extraction 1N with respect to HNO$_3$. Five minutes of shaking sufficed for the establishment of an extraction equilibrium. Lengthening the chains of the tertiary amines from 8 to 12 carbon atoms led to a decrease in extraction of ruthenium. Tertiary amines were found to extract ruthenium best (41% in

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L 55075-65
ACCESSION NR: AP5017998

one extraction by tri-n octylamine); the secondary amine di-n-hexylamine gave 21%, and the primary amine n-dodecylamine gave 18%. A distinct influence of the nature of the diluent on the extraction was observed: hexane gave better extraction than carbon tetrachloride. Orig. art. has 1 graph and 1 table.

ASSOCIATION: none

ENCL: 00

SUB CODE: OC, GC

SUBMITTED: 13Nov63

OTHER: 006

JPRS

NO REF SOV: 002

Card 2/2

SINITSYN, M. (Gor'kiy)

For sanitary improvement of the Volga. Izobr.i rats. no.3:15-17
                                                    (MIRA 16:4)
'63.

1. Spetsial'nyy korrespondent zhurnala "Izobretatel' i
ratsionalizator".
                    (Volga—Water—Purification)

SINITSYN, M.

Technology produces weapons for the doctor. Zdorov'e 8 no.3.:5-17

Mr '62.   (MEDICAL INSTRUMENTS AND APPARATUS)

(MIRA 1:4)

SINITSYN, M.

Television in medicine. Zdorov'e 8 no.8:7-8 Ag '62.   (MIRA 15:8)
(TELEVISION IN SURGERY)

SINITSYN, Mitrofan Mikhailovich

Problems in economics and in organization of livestock raising in the Northern
Caucasus. Rostov na Donu, 1929. 135 p. (52-53715)

SF55.R95S5

SINITSYN, M. M.

" Red Steppe Breeds of Large-Horned Cattle in the Kuban and Ways of Improving Them "

(On the Regularity of Steppe Breeds and On Ways of Improving Them)

Trudy Novocherkassk Zoovet Inst im 1st Cavalry Army, Vol 8, pp3-26, 1949.

SINITSYN. M. M.   and P. Ye. Ladan

"Effectiveness of Commerical Interbreeding of Swine"

Trudy Novocherkassk Zoovet Inst im 1st Cavalry Army, Vol 8, 1949, pp 123-124

LADAN, P. Ye. and M. M. Sinitsyn

SINITSYN, M. M.

"Effectiveness of Commerical Interbreeding of Swine"

Trudy Novocherkassk Zoovet Inst imen 1st Cavalry Army, Vol 8, pp123-24, 1949

Q-3

USSR/Farm Animals - Cattle.

Abs Jour   : Ref Zhur - Biol., No 7, 1958, 30944

Author   : Sinitsyn M.M.
Inst   :
Title   : The Direction of Breeding Work in Regard to the Red
              Steppe Breed in the Sovkhozes "Gornyak" and "Gigant".
              (Napravleniye plemennoy raboty a krasnoy stepnoy poro-
              doy v sovkhozakh "Gornyak" i "Gigant").

Orig Pub   : Tr. Novocherkasskogo zootekh.-vet. in-ta, 1957, vyp. 10,
              3-14.

Abstract   : It is recommended that the work in the Rostov, Kamensk,
              and other regions on the improvement of the Red Steppe
              breed, the basic planned one, be conducted in the sov-
              khozes "Gornyak" and "Gigant", which possess the best
              herds of this breed; the work should be directed to-
              wards the improvement of their dairy-production and
              milk qualities. As a basic method,

Card 1/2

Q-2

USSR / Farm Animals, Cattle

Abs Jour: Ref Zhur-Biol., No 2, 1958, 7160

Author : M. M. Sinitsyn
Inst   : Novocherkosok Zootechnical Institute
Title   : An Experiment in the Maintenance of Cows in Camp
          Site Stalls During the Summer, Conducted by the
          Advanced Kolkhozes and Sovkhozes of the Kamen-
          skaya and Rostovskaya Oblast'.

Orig Pub: Tr. Novocherkasskogo zootekhn. vet. in-ta, 1957,
          vyp, 10, 57-65

Abstract: No abstract.

Card 1/1

SINITSYN. M M.

SINITSYN, M.M., prof.

Improving the Red Steppe cattle. Zhivotnovodstvo 19 no.11:73-79
N '57.   (MIRA 10:12)

1. Novocherkasskiy zooveterinarnyy institut.
                        (Dairy cattle breeding)

LADAN, Panteleymon Yefimovich, prof.; MARKUSHIN, A.P., prof.; SINITSYN, M.M., prof.; USTIMENKO, L.F., red.; PEVZNER, V.I., tekhn.red.; ZUBRILINA, Z.P., tekhn.red.

[Stockbreeding and specialized animal husbandry] Razvedenie sel'skokhoziaistvennykh zhivotnykh i chastnoe zhivotnovodstvo. Moskva, Gos.izd-vo sel'khoz.lit-ry, 1960. 431 p.
(MIRA 13:10)

1. Novocherkasskiy zooveterinarnyy institut (for Ladan, Sinitsyn).
2. Saratovskiy zooveterinarnyy institut (for Markushin).
(Stock and stockbreeding)

KNOPOV, A.L.; KOGAN, B.L.; SINITSYN, M.P.; SOMINSKIY, V.S.; KHVEDCHENYA,L.I.

"Planning production in woodpulp enterprises" by A.V.Chirkov.
Reviewed by A.L.Knopov and others. Bum.prom.32 no.8:31-32
                                                  (MIRA 10:12)
Ag '57.
           (Woodpulp industry)   (Chirkov, A.V.)

SINITSYN, M.P.

Ways of increasing returns in sulfate woodpulp enterprises.
Bum.prom.32 no.1:27-30 Ja '57.   (MIRA 10:4)

1.Leningradskiy Tekhnologicheskiy institut im. V.M.Molotova.
                    (Woodpulp industry)
                    (Industrial management)

SINITSYN, Mikhail Pavlovich; TUROVSKIY, P.B., red.; ARNOL'DOVA, K.S.,
red.izd-va; DANONAHBA, A.M., tekhn.red.

[Profitableness of sulfate pulp enterprises and ways for
increasing it] Rentabel'nost' sul'fattselliuloznykh
predpriiatii i puti ee povysheniia. Moskva, Goslesbum-
izdat, 1959. 81 p.   (MIRA 12:8)
        (Woodpulp industry)

UCHASTKINA, Zoya Vasil'yevna; SUCHIL'NIKOV, N.P., ofits. retsenzent;
SINITSYN, M.P., red.; SARMATSKAYA, G.I., red. izd-va;
GRECHISHCHEVA, V.I., tekhn. red.

[Economics of the woodpulp-paper industry] Ekonomika tsel-
liulozno-bumazhnoi promyshlennosti. Moskva, Goslesbumizdat,
1963. 201 p.   (MIRA 17:1)

IVCHER, Mark Isaakovich, kand. ekon. nauk; SINITSYN, M.P., red.

[Problems of calculating and analyzing the costs of woodpulp-
paper production] Voprosy kal'kulirovaniia i analiza sebe-
stomosti tsellulozno-bumazhnoi produktsii. Moskva, Lesnaia
promyshl., 1965. 110 p.   (MIRA 18:3)

SINITSYN, M.P.

Economic efficiency of the technological systems for the pro-
duction of high-qualtiy rayon pulp. Trudy LTITSBP no.12:182-192
'64.

(MIRA 18:8)

VIKULOV, Aleksandr Petrovich; SUCHIL'NIKOV, N.G., retsenzent;
SINITSYN, M.P., retsenzent; LIKHOVIDOV, N.K., red.

[Labor productivity and production costs in the wood-
pulp and paper industry] Proizvoditel'nost' truda i sebe-
stoimost' produktsii v tselliulozno-bumazhnoi promyshlen-
nosti. Moskva, Lesnaia promyshlennost', 1965. 317 p.
(MIRA 18:12)

SINITSYN, M.S.

Life of the Nentsi. Geog. v shkole no.4:20-27 Jl-Ag '54.
(Samoyeds)   (MLRA 7:8)

Sinitsyn, M.T.

CHERNOV, M.I., redakter; BELYAYEV, V.D., redakter [deceased]; BUKHANOVSKIY,
I.L., redakter; ZHUDRO, A.K., redakter; PETRUCHIK, V.A., redakter;
SEDOV, F.G., redakter; SINITSYN, M.T., redakter; SMIRNOV, Ye.V.,
redakter; SOLOV'YEV, I.F., redakter; SUBBOTIN, A.P., redakter;
CHERNOV, M.I., redakter; DOBRONRAVOVA, S.M., redakter, KRASNAYA,
A.K., tekhnicheskiy redakter.

[Dictionary of marine and river terms] Slovar' morskikh i rech-
nykh terminov. Moskva, Izd-ve "Rechnoi transport". Vol.1. A - M
1955. 215 p.   (MLRA 9:4)
(Russian language--Dictionaries) (Navigation--Dictionaries)

JINITSYN, Mikhail Fl...Dl-vich.

The operation of the radio communication service by the navy; textbook. Moskva, Izd-vo
"Morskoi transport", 1955. 295 p. maps.

BUKHANOVSKIY, I.L., redaktor; ZHUDRO, A.K., redaktor; RYABCHIKOV, P.A.,
redaktor; SEDOV, F.G., redaktor; SINITSYN, M.T., redaktor; SMIRNOV,
Ye.V., redaktor; SOLOV'YEV, I.F., redaktor; SUBBOTIN, A.P., redaktor;
CHERNOV, M.I., redaktor; DOBRONRAVOVA, S.M., redaktor izdatel'stva;
KRASNAYA, A.K., tekhnicheskiy redaktor

[Dictionary of marine and river terms] Slovar' morskikh i rechnykh
terminov. Moskva, Izd-vo "Rechnoi transport." Vol.2. N-IA. 1956.
285 p.   (MLRA 10:1)
        (Navigation--Dictionaries)

SINITSYN, Mikhail Timofeyevich; KITAYEVICH, B.Ye., red.; SEMENOVA, S.A.,
    red.izd-va; LAVRENOVA, N.B., tekhn.red.

    [Radio communications at sea] Ekspluatatsiia radiosviazi na
    morskom flote. Izd.2., perer. i dop. Moskva, Izd-vo "Morskoi
    transport," 1959. 308 p.   (MIRA 12:11)
      (Radio--Installation on ships)   (Radio in navigation)

VISHNEPOL'SKIY, S.A., kand. ekon. nauk; BAYEV, S.M., inzh. putey soob-
        shcheniya; BONDARENKO, V.S.; RODIN, Ye.D.; CHUVLEV, V.P.;
        TURETSKIY, L.S.; SMIRNOV, G.S.; SHAPIROVSKIY, D.B.; OBERMEYSTER,
        A.M.; SINITSIN, M.T.; KOGAN, N.D.; PETRUCHIK, V.A.; GRUNIN, A.G.;
        KOLESNIKOV, V.G.; MARTIROSOV, A.Ye.; KROTKIY, I.B.[deceased];
        ZENEVICH,G.B.; MEZENTSEV,G.A.; KOLOMOYTSEV,V.P., kand. tekhn. nauk;
        ZAMAKHOVSKAYA, A.G., kand. tekhn. nauk; MAKAL'SKIY, I.I., kand.
        ekon. nauk; MITROFANOV, V.F., kand. ekon. nauk; CHILIKIN, Ya.A.;
        BAKAYEV, V.G., doktor tekhn. nauk, red. Prinimali uchastiye:
        DZHAVAD, Yu.Kh., red.; GUBERMAN, R.L., kand. ekon. nauk, red.;
        RYABCHIKOV, P.A., red.; YAVLENSKIY, S.D., red.; BAYRASHEVSKIY,
        A.M., kand. tekhn. nauk, red.; POLYUSHKIN, V.A., red.; BALANDIN,
        G.I., red.; ZOTOV, D.K., red.; RYZHOV, V.Ye., red.; BOL'SHAKOV,A.N.,
        red.; VUL'FSON, M.S., kand. ekon. nauk, red.; DMITRIYEV, V.I., kand.
        ekon. nauk, red.; ALEKSANDROV, L.A., red.; LAVRENOVA, N.B., tekhn.
        red.

[Transportation in the U.S.S.R.; marine transportation] Transport
SSSR; morskoi transport. Moskva, Izd-vo "Morskoi transport,"
1961.   759 p.   (MIRA 15:2)
                (Merchant marine)

KORYAKIN, Sergey Fedorovich, kand. ekon. nauk, dots.; BERNSHTEYN, Iosif L'vovich, kand. ekon. nauk, dots.; Prinimal uchastiye: ELLINSKIY, Yu.F., st. prep.; SHRABSHTEYN, Ye.A., dots., retsenzent; CHERKASOV-TSIBIZOV, A.A., st. prepod., retsenzent; MILYUKOV, M.A., st. prepod., retsenzent; MOZHAROV, N.D., kand. ekon. nauk, retsenzent; MAKAL'SKIY, I.I., kand. ekon. nauk, retsenzent; KREMER, B.A., inzh., retsenzent; PETRUCHIK, V.A., kand. ekon. nauk, red.; GUBERMAN R.L., kand. ekon. nauk, red.; RODIN, Ye.D., kand. ekon. nauk, red.; DUBCHAK, V.Kh., inzh., red.; MARTIROSOV, A.Ye., inzh., red.; PALYUSHKIN, V.A., inzh., red.; BELOV, M.I., doktor geogr. nauk, red.; SINITSYN, M.T., inzh., red.; KOLESNIKOV, V.G., kand. tekhn. nauk, red.; ZAMAKHOVSKIYA, A.G., kand. ekon. nauk, red.; KUZ'MIN, T.P., inzh., red.; NEMCHIKOV, V.I., kand. tekhn. nauk, red.; GEKHTBARG, Ye.A., inzh., red.; FILIPPOV, K.D., red.; KRUGLOVA, Ye.M., red.

[Economics of the merchant marine] Ekonomika morskogo transporta. Izd.2., perer. i dop. Moskva, Transport, 1964. 527 p.   (MIRA 18:1)

SINITSYN, Mikhail Timofeyevich;STUPAKOVA, L.A., red.

[Operation of radio communication systems in the merchant marine] Ekspluatatsiia radiosviazi na morskom flote. Izd.3, perer. i dop. Moskva, Transport, 1965. 318 p.

(MIRA 18:4)

15(8), 24(8)

AUTHORS: Zel'dovich, Ya. B., Academician, Kormer, S. B., Sinitsyn,
               M. V., Kuryapin, A. I.

SOV/2o-122-1-12/44

TITLE: The Temperature and the Specific Heat of Plexiglass Compressed
               by a Shock-Wave (Temperatura i teployemkost' pleksiglasa
               szhatogo udarnoy volnoy)

ABSTRACT: Compression by a shock wave is a means of obtaining high
               pressures and high temperatures which cannot be obtained by
               other methods. The investigation of transparent bodies per-
               mits an immediate determination of temperature by measuring
               the brightness of the body compressed by the shock wave.
               After an intense compression (by which a temperature of some
               thousands of degrees is attained) an initially transparent
               substance becomes opaque and radiates intensely. This phenom-
               enon is caused by a displacement of the electron levels and
               by an excitation of the electrons. The radiation of the
               front of the shock waves was observed through a layer of

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The Temperature and the Specific Heat of Plexiglass Compressed by a Shock-Wave .

SOV/2o-122-1-12/44

the not yet compressed transparent substance and it was record-
ed by photochronographs in 2 parts of the spectrum:
$\lambda = 4020$ Å (blue) and red ($\lambda = 6000$ Å). The authors determin-
ed the temperature in polymethyl metacrylate $(C_5H_8O_2)_n$
(plexiglass) of an initial density of 1,18 g/cm^3. The velocity
of the shock wave was 16,5 km/sec. In the compressed state,
the density was equal to 3,15 g/cm^3, pressure was 2.10^{12}
dyne/cm. By 3 experiments the following quantities were de-
termined: the brightness temperature deduced from the intensi-
ty of the radiation in the red part of the spectrum
(8500 ± 500^oK) and the color temperature, deduced from the
ratio of the intensities in the red and in the blue parts
of the spectrum (11 000 $\pm$ 1 000°K). For the energy of the
compressed plexiglass, the value $E = P(V_o - V)/2 = 0,53.10^{12}$
erg/g was found. Thermal pressure is equal to $\sim 1,3.10^{12}$
dyne/cm^2 and the thermal energy of the atoms amounts to
$\sim 0,31.10^{12}$ erg/g. The elastic pressure was determined as being
the difference between the total and the thermal pressures,
i.e. $0,7.10^{12}$ dyne/cm^2. An expression is then given for the
elastic energy. The compression causes a thorough destruction

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The Temperature and the Specific Heat of Plexiglass Compressed by a Shock-Wave   SOV/2o-122-1-12/44

of the molecules, but the energy is not sufficient to cause a total interruption of all the chemical bonds. The conception of single molecules cannot be applied to densities of ~ 3 g/cm^2. The optical investigations of the transparent bodies are continued. The authors thank L. V. Al'tshuler, I. Sh. Model', and Yu. P. Rayzer for their constant interest in this paper. There are 4 references, all of which are Soviet.

SUBMITTED: June 4, 1958

Card 3/3

25335
S/020/61/138/006/011/019
B104/B214

24,3950   also 2108

AUTHORS: Zel'dovich, Ya. B., Academician, Kormer, S. B., Sinitsyn,
              M. V., and Yushko, K. B.

TITLE: An investigation of the optical properties of transparent
              substances at superhigh pressures

PERIODICAL: Akademiya nauk SSSR. Doklady, v. 138, no. 6, 1961
              1333 - 1336

TEXT: The propagation of strong shock waves in transparent media permits
to study the properties of substances at pressures of some thousands or
millions of atmospheres (Zel'dovich et al., DAN 122, no. 1, 48(1958)).
At pressures not too high if the compressed substance remains transparent
throughout its thickness the refractive index may be determined geometri-
cally. The authors first studied water, plexiglass and glass. A diagram
of the experimental set-up with which the reflection of light by the
shock wave can be determined, is shown in Fig. 1. The reflected rays
II - V were recorded by a fast photochronograph. Water was found to re-
main transparent under pressures of 89 - 144 thousand atmospheres. Glass
becomes opaque at a pressure of 200,000 atmospheres. The exact values
Card 1/5

An investigation of the optical...

for water are collected in Table 1. In the discussion of the results the authors used the data of V. Raman and K. S. Venktaraman (Proc. Roy. Soc., 171, 137 (1939)) and gave the following relation for the temperature and density dependence of the refractive index: $n = 1.334 + 0.334(\rho - 1)$ $- 1.90 \cdot 10^{-5} T \rho$ (1), T being in $^{\circ}C$. Fig. 3 shows graphically a comparison of the values of n calculated by (1) with those determined by geometrical methods. The dotted line in this diagram corresponds to the Lorentz - Lorenz formula. The deviations of the results obtained photometrically can be partly explained by the increase in viscosity of water at high pressure. L. V. Al'tshuler (Ref. 6) had detected a decrease of the intensity of the reflected light at pressures above 115,000 atm and shown it to be related to the phase transformation at this pressure. This effect could not be detected by the present authors. They are of the opinion that water remains transparent up to 300,000 atm. A. G. Oleynik, V. N. Mineyev, and R. M. Zaydel' are mentioned. The authors thank V. P. Arzhanov, G. V. Krishkevich for carrying out the experiments and A. G. Ivanov, R. M. Zaydel', A. G. Oleynik, and V. N. Mineyev for valuable discussions. There are 3 figures, 1 table, and 10 references: 5 Soviet-

Card 2/5

An investigation of the optical...

bloc, and 5 non-Soviet-bloc.

SUBMITTED: March 30, 1961

Fig. 1: Experimental set-up.

Legend: I) incident ray. II) and III)
light reflected from the stationary
boundary between plexiglass and water.
IV) light reflected from the front
of the shock wave. V) light reflected
from the moving boundary between
compressed water and compressed plexi-
glass. 1) plexiglass prism. 2) water
in front of the shock wave front. 3)
water compressed in the shock wave.

Card 3/5

25335
S/020/61/138/006/011/019
B104/B214
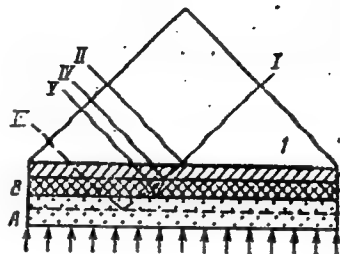
L 13950-65   AS(mp)-2/AEDC(a)/ESD(gs)

ACCESSION NR: AP4047885   S/0056/64/047/004/1202/1213

AUTHOR: Kormer, S. B.; Sinitsy*n, M. V.; Funtikov, A. I.; Urlin, $\mathcal{B}$
V. D.; Blinov, A. V.

TITLE: Investigation of the compressibility of five ionic compounds
at pressures up to 5 Mb

TOPIC TAGS: compression, high pressure, compressibility, ionic crys-
tal

ABSTRACT: The dynamic compression of LiF, NaCl, KCl, KBr, and CsBr
ionic crystals of normal and reduced density is investigated for a
wide range of pressures, densities, and temperatures. The highest
pressure attained was 5 Mb, and the maximum compression ratio (dens-
ity/reduced density) was 3.4. The experimental data can be described
by an equation of state in which the temperature change due to specif-
ic heat and the thermal excitation of electrons is taken into account.

Card 1/2

L 13950-65

ACCESSION NR: AP4047885

The data obtained indicate an anomalous behavior of NaCl, KCl, KBr, and LiF crystals during shock compression. For the first three crystals, density discontinuities were detected in the liquid state. It is suggested that this may be due to a change in the coordination number which occurs during the same length of time in which a shock wave is propagated along a sample. Orig. art. has: 7 figures, 4 tables, and 4 formulas.

ASSOCIATION: none

SUBMITTED: 18Apr64 ENCL: 00 SUB CODE: SS, ME

NO REF SOV: 012 OTHER: 004 ATD PRESS: 3133

Card 2/2

L 41067-65   EWP(m)/EWT(1)   Pd-1

ACCESSION NR: AP5010495

UR/0056/65/048/004/1033/1049

AUTHOR: Kormer, S. B.; Sinitsyn, M. V.; Kirillov, G. A.; Urlin, V. D.

TITLE: Experimental investigation   of temperatures and fusion curves of shock-compressed NaCl and KCl under pressures up to 700 kbar

SOURCE: Zhurnal eksperimental'noy i teoreticheskoy fiziki, v. 48, no. 4, 1965, 1033-1049

TOPIC TAGS: shock wave, shock wave front, shock wave temperature, shock wave front temperature, ultrahigh pressure dynamics, ultrahigh temperature dynamics, ultrahigh temperature effect, ultrahigh pressure effect, shock wave fusion, NaCl shock wave treatment, KCl shock wave treatment

ABSTRACT: Temperature determinations were made at the 4780 and 6250 Å wavelengths on the basis of the brightness of the shock wave fronts as compared to the brightness of the reference light source. The measurements were carried out on NaCl and KCl single crystals (40 x 40 x 20 mm). The shock wave in the crystals was created by the impact of a metal plate accelerated by an explosion to speeds of 5—6 km/sec. The experimental arrangement and method (described in detail in the article) made it possible to exclude interference from the air shock wave and the lateral effects of the

Card 1/2

L 41067-65

ACCESSION NR: AP5010495   O

investigated front. The fusion curves of both crystals were plotted in order to account for the effect of fusion on the temperature. These curves confirmed that fusion behind the front actually takes place. For NaCl fusion started at 3500K and 540 kbar, and the liquid state was fully reached at 3700K and 700 kbar. For KCl these values were 3800K and 330 kbar for the start of fusion and 4100K and 480 kbar for full fusion. The thermal capacity of the solid phase was relatively unaffected by anharmonicity, with values somewhat above those of Dulong and Petit. The gradients of the fusion curves agreed well with the theoretical, except for the initial stage of the KCl curve, which deviated from that of Clark (S. Clark, J. Chem. Phys., 31, 1959, 1526). The entropy jump remained virtually constant through the entire pressure range; the volume jump, however, showed a significant decrease: for NaCl, from 20—25% at zero pressure to 2% at 700 kbar, and for KCl from 20% at 19 kbar to 4% at 480 kbar. This effect was attributed to the increase of the potential barrier occurring with higher pressure which must be overcome by an ion before it can leave its place in the lattice. It was concluded from this phenomenon that the properties of a liquid under high pressure, at least at the temperature of fusion, are less distinct from those of a solid than under atmospheric pressure. The data obtained in the experiments failed to confirm the assumption that a phase change behind a shock wave might lead to a wave split. Orig. art. has: 10 figures and 14 formulas.   [FP]

Card 2/3   SUBMITTED: 5 Nov 64

L 58932-65   EWT(1)/EWP(m)/EPR/EWA(d)/FCS(k)/EWA(h)/EWA(c)   Pi-4   WW

ACCESSION NR: AP5019226   UR/0056/65/049/001/0135/0147

AUTHOR: Kormer, S. B.; Sinitsyn, M. V.; Kirillov, G. A.; Popova, L. T.

TITLE: Experimental determination of the light absorption coefficient in shock-compressed NaCl. The absorption and conduction mechanism

SOURCE: Zhurnal eksperimental'noy i teoreticheskoy fiziki, v. 49, no. 1, 1965, 135-147

TOPIC TAGS: absorption, absorption coefficient, high pressure, shock wave, shock compression

ABSTRACT: The absorption coefficients α for visible light in shock-compressed NaCl are measured experimentally. At a pressure of 465 kbars and a temperature of 2550K, $\alpha = 1.5$ cm^{-1}. With increasing pressure and temperature α increases, and for $P = 790$ kbars and $T = 4850K$, $\alpha = 10-12$ cm^{-1}. The values of α at 4780 Å and 6250 Å are close to each other. The absorption coefficients found were about 100 times greater than those observed under normal conditions. A consideration of the experimental data and possible mechanisms of light absorption leads to the conclusion that in shock-compressed NaCl absorption and conductivity are associated with free electrons. The free electron concentration and mobility are deduced from the coefficient of absorption and from the conductivity in shock-compressed NaCl. A

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L 58932-65

ACCESSION NR: AP5019226

mechanism is suggested according to which NaCl, which initially is a dielectric, is transformed by the shock wave front into a semiconducting state with donor levels. The concentration of the donors generated by the shock wave front during plastic deformation reaches 10^{-3}. Free carriers in the conduction band are generated as a result of thermal excitation of electrons from the donor levels. Orig. art. has: 13 formulas and 3 figures. [CS]

ASSOCIATION: none

SUBMITTED: 20Feb65   ENCL: 00   SUB CODE:OP,SS

NO REF SOV: 014   OTHER: 020   ATD PRESS: 4051

Card 2/2

KANATKO, Ye.I.; SINITSYN, M.Ya.

Kitchen furniture styles. Der.prom. 9 no.9:21-22 S '60.
(MIRA 13:9)

1. Ukrainskiy nauchno-issledovatel'skiy institut mekhanicheskoy
obrabotki drevesiny (for Kanatko).
(Kitchen cabinets)

SINITSYN, N.

We are introducing progressive methods and modern equipment.
Mias. ind. SSSR 32 no.1:25–27 '61.   (MIRA 14:7)

1. Zaporozhskiy mye okombinat.
          (Zaporozh'ye—Meat industry—Technological innovations)

SINITSYN, N.

New service stations in automotive transportation units. Avt.
transp. 39 no.1:20-22 Je 61.   (MIRA 14:3)

1. Glavnyy inzhener Orenburgskogo avtotresta.
        (Orenburg Province—Service stations)

SINITSYN, N.   (Prof.)

"Recent USSR Work on Transplantation of Organs," Medits. Rabotnik, 18, No.40, p.3, 1955

W-31435, 6 Sept 55

SINITSYN, N.A.

Some modifications in layouts. Sakh. prom. 33 no.1:40-41 Ja '59.
(MIRA 12:1)

1.Sakharnyy zavod "Kollektivist."
(Kshen--Sugar manufacture)

SINITSYN, N.A.

Improve the organization of the work in production sections.
Sakh. prom. 37 no.8:30-32 Ag '63.   (MIRA 16:8)

1. TSentral'no-chernozemnyy sovet narodnogo khozyaystva.
               (Sugar manufacture)

ANTONOVA, Lyudmila Aleksandrovna, VOLKOV, Aleksandr Ivanovich, SINITSYN, N.A., red.; KOSAREVA, Ye.N., tekhn.red.

[Practices in introducing amendments to collective farm statutes]
Praktika vneseniia izmenenii v ustavy kolkhozov. Moskva, Gos. izd-vo
iurid. lit-ry, 1958. 56 p.   (MIRA 11:9)
        (Collective farms)

KOZYR', Mikhail Ivanovich; SINITSYN, N.A., red.; KOSAREVA, Ye.N., tekhn.red.

[Law of collective farm property] O prave kolkhoznoi sobstvennosti. Moskva, Gos. izd-vo iurid. lit-ry, 1958. 102 p.   (MIRA 12:2)
(Collective farms)

KOZYR', Mikhail Ivanovich; KRASNOV, Nikolay Ivanovich; SINITSYN, N.A.,
        red.; SHCHEDRINA, N.L., tekhn.red.; TARASOVA, N.M., tekhn.red.

        [Legal problems in the further development of collective farms
        in the U.S.S.R.] Pravovye voprosy dal'neishego razvitiia
        kolkhoznogo stroia v SSSR. Moskva, Gos.izd-vo iurid.lit-ry.
        1960. 70 p.   (MIRA 13:7)
                        (Collective farms)

ALEKSEYEV, Ye.T.; APENCHENKO, S.S.; BASOV, A.P.; BAUSIN, A.F.; BERSHADSKIY, L.S.;
        VELLER, M.A.; GINZBURG L. N.; GUSEV, S.A.; DANILOV, G.V.; DOLGIKH, M.S.;
        DRUZHININ, N.N.; YEFIMOV,V.S.; ZAVADSKIY, N.V.; IVASHECHKIN, N.V.;
        KARAKIN, P.F.; KUZHMAN, G.I.; LOBANOV, S.P.; MERKULOV, Ya.V.;NIKODIMOV,
        P.I.; PANKRATOV, N.S.; PYATAKOV, L.V.; RODICHEV, A.F.; SMIRNOV, M.S.;
        STRUKOV, B.I.; SAVOCHKIN, S.M.; SAMSONOV, N.N.; SINITSYN, N.A.;SOKOLOV,
        A.A.; SOLOPOV, S.G.; CHELYSHEV, S.G.; SHCHEPKIN, A.Ye.

        Fedor Nikolaevich Krylov; obituary. Torf. prom. 35 no.6:32 '58.
                                                        (MIRA 11:10)
                        (Krylov, Fedor Nikolaevich, 1903-1958)

KUZNETSOVA, T.A., inzh.; SINITSYN, N.A., inzh.

Prospects for development of the peat industry in 1959-1965. Torf. prom. 35 no.8:1-5 '58.   (MIRA 11:12)
                    (Peat industry)

SINITSYN, N.A.; PAREMSKIY, B.D.

Present conditions and further development of the peat industry.
Torf. prom. 37 no.5:3-5 '60. (MIRA 14:10)

1. Gosplan SSSR (for Sinitsin). 2. Gosplan BSSR (for Paremskiy).
(Peat industry)

ACC NR: AP7005753   (A)   SOURCE CODE: UR/0126/67/023/001/0073/0077

AUTHOR: Burkin, V. S.; Sudakov, V. S.; Prokhodtsev, M. M.; Sinitsyn, N. A.

ORG: VNII of the Bearing Industry (VNII podshipnikovoy promyshlennosti)

TITLE: Radiometallographic analysis of the process of phase hardening and aging of the alloy N27T2

SOURCE: Fizika metallov i metallovedeniye, v. 23, no. 1, 1967, 73-77

TOPIC TAGS: iron nickel alloy, titanium, x ray diffraction analysis, metal hardening, metal aging, phase composition / N27T2 Fe-Ni-Ti alloy

ABSTRACT: Considering that aging processes occur more effectively in Ti-containing Fe-Ni alloys compared with Ti-free Ni-Fe alloys it was of interest to analyze structural changes in an alloy of this kind during every stage of its heat treatment: quenching, phase hardening, phase hardening and aging. Accordingly, specimens of the alloy N27T2 (0.06% C, 0.48% Si, 0.40% Mn, 27.5% Ni, 2.68% Ti, 0.003% P, 0.011% S, with Fe as the remainder)(martensitic point -64°C; end of reverse martensitic transformation 730°C) were subjected to radiometallographic analysis (γ-Fe interference lines of debyegrams). The structural changes in austenite

UDC: 669.15·24

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ACC NR: AP7005753

were determined on the basis of changes in the width of the diffraction lines of (111)$_{\gamma-Fe}$ and (222)$_{\gamma-Fe}$. The effect of aging was estimated according to changes in the lattice parameter a$_\gamma$ of austenite. The various types of heat treatment employed were: quenching from 1050°C in water; phase hardening with cooling in liquid nitrogen (-196°C); phase hardening + aging at 450 and 650°C for 0.5, 3, 6 and 12 hr. Findings: the lattice parameter of phase-hardened austenite decreases compared with that of post-quenching austenite, which indicates that the temperature of limiting solubility of Ti for this alloy is somewhat above 800°C. As the aging process develops, the fine crystalline structure of the phase-hardened γ-solid solution becomes somewhat less "disperse" (isolated reflections can be perceived on the lines of the γ-phase) and the principal factor in the attainment of high hardness is the segregation of an excess phase (Ni$_3$Ti) and its rational distribution in the austenite matrix. The pattern of interference lines of the α-phase (martensite) obtained from austenite by means of subzero treatment and preliminary aging points to a higher "dispersity" of the fine crystalline structure of the martensite forming as a result of the aging. The high "dispersity" of the fine structure of the martensite arising on aging is due to the martensitic transformation in the phase-hardened austenitic matrix with fine-disperse particles of the excess phase. "The authors are profoundly grateful to K. A. Malyshev for his valuable assistance in the discussion of these findings." Orig. art. has: 3 figures, 1 table.

SUB CODE: 11 20/ SUBM DATE: 04May66/ ORIG REF: 005

Card 2/2

SOLOV'YEV, Dmitriy Ivanovich; SINITSYN, N.I., polkovnik, redaktor; VOLKOVA,
V.Ye., tekhnicheskiy redaktor

[Artillery of warships] Artilleriia boevogo korablia. Moskva, Voen.
izd-vo M-va obor.SSSR, 1957. 171 p.   (MIRA 10:9)
        (Artillery)

30295
S/109/61/006/011/010/021
D266/D304

AUTHORS: Shevchik, V.N. and Sinitsyn, N.I.

TITLE: The effect of velocity spread on the operation of
              backward wave oscillators

PERIODICAL: Radiotekhnika i elektronika, v. 6, no. 11, 1961,
              1881 - 1887

TEXT: The purpose of the paper is to study the effect of velocity
spread on the output power and starting current of backward wave
oscillators. Following Lopukhin's method (Ref. 10: GITTL, 1953)
the problem is solved by successive approximation. The electric
field is first determined in the absence of the electron flow and
then the interaction of the electrons with this "cold" field is
taken into account. Having obtained the a.c. current the author
proceeds to calculate the "secondary" field caused by the presence
of the electrons. It is assumed throughout the paper that the a.c.
quantities are always considerably smaller than the d.c. quanti-
ties, i.e. small signal considerations apply. The author starts the
mathematical investigation by writing up the linearized Liouville
Card 1/4

The effect of velocity spread on ...

equation in the absence of d.c. electric fields and neglecting collisions. The d.c. distribution function is taken in the following form:

$$f_0(v) = \frac{N_0}{\Delta v} \left\{ \int_{-\infty}^{V} \delta[v - (v_0 - \frac{\Delta v}{2})]dv - \int_{-\infty}^{V} \delta[v_0 + \frac{\Delta v}{2})]dv \right\}, \quad (5)$$

where δ - Dirac function, N_0 and v_0 - average values of d.c. number density and velocity respectively, $\Delta v = 2v_0\varepsilon$ - d.c. velocity spread, and $\varepsilon \ll 1$. Using this form of $f_0(v)$ the a.c. current is obtained with the aid of a formula taken from (Ref. 10: Op.cit.) and a further general formula (losses in the circuit included) is derived for the output power. In the case of zero loss some numerical data are given. In Fig. 2 normalised power is plotted against the parameter $\Phi_0 = (1 - v_0/v_{ph}) \varphi_0$ where v_{ph} is the phase velocity of the circuit wave, $\varphi_0 = \omega l/v_0$; l - the length of the interaction region; ω - angular frequency (in all the numerical calculations

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S/109/61/006/011/010/021
D266/D304

The effect of velocity spread on ...

$\varphi_0 = 20\pi$ is assumed). It is concluded that in the presence of velocity spread, $\varepsilon > 0$, the available output power decreases. The validity of this conclusion is not restricted to backward wave devices and can be applied for forward waves as well. The increase in starting current is shown in Fig. 3, where the normalized starting current (related to the case of no velocity spread) is plotted against ε. The calculations were carried out by neglecting terms higher than ε^2 which gives sufficient accuracy up to $\varepsilon = 0.04$ as confirmed by higher order approximations for the special case $I = 0$. The author states that the results of his calculations resolve the discrepancy between single-velocity theory and experiments (found in BWO's working at low voltages). The measured starting current was 24 mA (twice the value given by single-velocity theory) and the author's theory gives 21.2 mA. It is concluded that for high frequency tubes the effect of velocity spread is negligible. There are 3 figures and 11 references: 6 Soviet-bloc and 5 non-Soviet-bloc. The references to the English-language publications read as follows: W.L. Beaver, IRE Convention Record, 1956, 4, 3, 35; N.C. Chang, Electronic Components Conf. Proc., Los Angeles, California
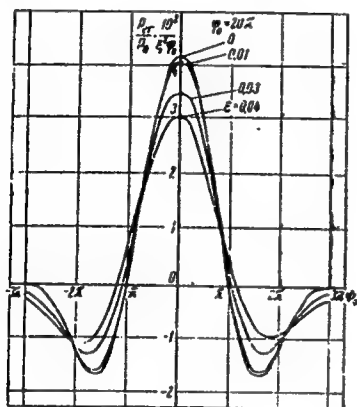
Card 3/4

30295

The effect of velocity spread on ...

1955, p. 47; D.A. Watkins, N. Rynn, Effect of velocity distribution of travelling-wave tube gain, J. Appl. Phys, 25, 11, 1375; H. Johnson, Proc. IRE, 1955, 43, 684.
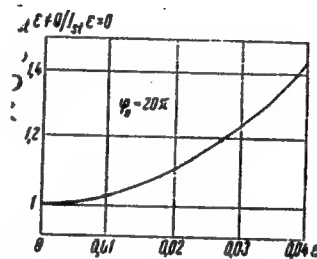
SUBMITTED: March 29, 1961

Fig. 2.

Fig. 3.

Рис. 3

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45.33
S/109/63/008/001/013/025
D266/D308

AUTHORS: Shevchik, V. N. and Sinitsyn, N. I.

TITLE: Effect of reflections on the operation of backward wave tubes

PERIODICAL: Radiotekhnika i elektronika, v. 8, no. 1, 1963, 99-107

TEXT: The purpose of the paper is to investigate theoretically the starting current and efficiency of backward wave oscillators in the presence of space charge and finite reflections. If a part of the circuit wave is reflected then the condition of oscillation is no longer infinite gain but instead the product of gain and reflection coefficient must be unity. The gain is calculated on the basis of two earlier works by Shevchik (Osnovy elektroniki SVCh (Fundamentals of microwave electronics), Izd. Sovetskoye radio, 1959; *Radiotekhnika i elektronika, 1960, v. 5, no. 12, 2059). The solution is obtained by successive approximations where, in the zero order approximation, the amplitude of the circuit wave is taken as constant and its phase varying as $\exp j(\omega t - \beta z)$. The gain is calculated by

Card 1/3   * S/109/60/005/012/030/035

Effect of reflections ...

a second order approximation. Applying the condition of oscillation, the starting current is

$$I_{st} = I_{st0} \ (1 - r \cos \psi) \ \frac{fa_0}{fa} \tag{8}$$

where I_{st0} - value of starting current in the absence of reflections, r - absolute value of the reflection coefficient, ψ - phase of the reflection coefficient, f_a - a relatively simple rational trigonometric function depending on the parameters of the tube, f_{a_0} - the f_a function in the absence of reflections. Neglecting space charge it is found that if $\psi = k\pi$ (k - integer), the effect is similar to that of positive or negative feedback, namely the starting current increases or decreases but the oscillation frequency remains

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ANDRUSHKEVICH, V.S.; BUDNIKOVA, N.P.; GRIGOR'YEV, M.A.; ZHARKOV,
        Yu.D.; SINITSYN, N.I.; STAL'MAKHOV, V.S.; TRUBETSKOV, D.I.;
        SHVEDOV, G.N.; SHEVCHIK, V.N.; MOSKOVA, R.F., red.

        [Electronic superhigh-frequency devices] Elektronnye pribory
        sverkhvysokikh chastot. Saratov, Izd-vo Saratovskogo univ.,
        1964. 187 p.   (MIRA 18:4)

L 02243-67   EWT(1)   JM

ACC NR: AR6013690   SOURCE CODE: UR/0058/65/000/010/H033/H033

AUTHOR: Sinitsyn, N. I.

TITLE: Linear theory of backward wave tube with electrostatic focusing of the electron beam

SOURCE: Ref. zh. Fizika, Abs. 10Zh223

REF. SOURCE: Sb. Vopr. elektron. sverkhvysok. chastot. Vyp. 1. Saratov, Saratovsk. un-t, 1964, 3-9

TOPIC TAGS: backward wave tube, electron beam, electron optics, space charge

ABSTRACT: The author investigates theoretically a backward wave tube with electrostatic focusing of the electron beam in the linear mode, without allowance for the influence of the space charge and attenuation. The calculations are made by successive approximations for the case of large periodic variations of the constant electron velocity. It is shown that at a certain geometry of the slow-wave system and for a suitable distribution of the focusing potential, it is possible to obtain a large reduction of the starting current, and thus increase the range of electronic tuning of the backward wave tube. A. Denisov.

SUB CODE: 09, 20

Card 1/1

ACCESSION NR: AP4040746   S/0142/64/007/002/0131/0138

AUTHORS: Budnikova, N. P.; Sinitsy*n, N. I.; Shevchik, V. N.

TITLE: Effect of beam current decrease along a slow wave system on the operation of backward and traveling wave tubes

SOURCE: IVUZ. Radiotekhnika, v. 7, no. 2, 1964, 131-138

TOPIC TAGS: backward wave tube, traveling wave tube, slow wave system, electron beam, electron loss

ABSTRACT: In view of the facts that earlier analyses neglected the decrease in the dc component of the beam current in a traveling or backward wave tube, a decrease which always occurs in real tubes, the authors develop a linear theory in which the electron loss in interaction space is taken into account. Since the character of the beam depends essentially on the type of slow-wave structure employed, estimates are made for both continuous and decrease reduction in the

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ACCESSION NR: AP4040746

beam current.   A successive approximation technique previously de-
veloped by one of the authors (V. N. Shevchik, Osnovy* elektroniki
SVCh, Izd-vo Sovetskoye radio, 1959; V. N. Shevchik and N. I.
Sinitsy*n, Radiotekhnika i elektronika, 1961, v. 6, 11, 1881) is used
in the calculations, the continuous decrease being assumed linear.
The difference between continuous and discrete increase begins to come
into play only when a small number of gaps is used in the slow-wave
system. The changes produced by the decrease of beam current in the
efficiency of a backward-wave tube and in the gain of a traveling-
wave tube are estimated and found to agree well with the experimental
data. Orig. art. has: 11 figures and 20 formulas.

ASSOCIATION: None

SUBMITTED: 25Jan63   DATE ACQ: ENCL: 00

SUB CODE: EC   NR REF SOV: 004   OTHER: 001

Card   2/2

L 42908-66   EWT(1)   JM

ACC NR: AR6015862   SOURCE CODE: UR/0275/65/000/012/A022/A022

AUTHOR: Sinitsyn, N. I.

TITLE: The influence of the discrete attenuation of the current of a beam along an attenuation system on the operations of a BWT

SOURCE: Ref. zh. Elektronika i yeye primeneniye, Abs. 12A153

REF SOURCE: Tr. molodykh uchenykh. Saratovsk. un-t. Vyp. fiz. Saratov, 1965, 3-14

TOPIC TAGS: backward wave tube, successive approximation, linear approximation

ABSTRACT: The method of successive approximations is used to perform a linear analysis of the operation of a BWT (backward-wave tube), taking into consideration the discrete attenuation of the current of a beam as it passes along an attenuation system. It is shown theoretically and experimentally that with a deterioration of the flight of beam electrons the actuation current increases. [Translation of abstract] Bibliography of 5 titles. A. D.

SUB CODE: 09

Card 1/1   UDC: 621.385.633

5(2)
AUTHORS: Nikolayev, A. V., Sinitsyn, N. M.   SOV/78-4-8-40/43

TITLE: The Distillation of Ruthenium From Strongly Diluted Nitric Acid Solutions (Otgonka ruteniya iz sil'no razbavlennykh azotnokislykh rastvorev)

PERIODICAL: Zhurnal neorganicheskoy khimii, 1959, Vol 4, Nr 8, pp 1935-1936 (USSR)

ABSTRACT: In the presence of persulphate and Ag^+ ions radioruthenium may be distilled off to 98% RuO_4 without previous removal of nitric acid (Table 1). The better oxidising effect, compared to sodium bromate, is explained by oxidation of silver into $Ag(II)$ and its reaction with Ru. A further advantage is that no gaseous bromine is formed. There are 1 table and 10 references, 6 of which are Soviet.

SUBMITTED: March 16, 1959

Card 1/1

NIKOLAYEV, A.V.; SINITSYN, N.M.

Study of isotope exchange in some cobalt compounds. Izv. Sib. otd.
AN SSSR no.7:59-64 '59.   (MIRA 12:12)

1.Institut neorganicheskoy khimii Sibirskogo otdeleniya AN SSSR.
(Cobalt--Isotopes)

5 (2)
AUTHORS:

Nikolayev, A. V., Corresponding Member   SOV/20-127-1-31/65
AS USSR, Sinitsyn, N. M.

TITLE:

The Extraction of Ruthenium Nitrosonitrate by the Esters of Butyl-phosphinic Acids (Ekstraktsiya nitrozonitrata ruteniya efirami butilfosfinovykh kislot)

PERIODICAL:

Doklady Akademii nauk SSSR, 1959, Vol 127, Nr 1, pp 117 - 119 (USSR)

ABSTRACT:

The interest in new alkyl-phosphorus extracting agents for uranium, plutonium, and several other elements has lately increased considerably (Refs 1,2,10). They are able to extract uranium and plutonium from aqueous solutions better than tributylphosphate (TBPh) (Ref 1). Ruthenium is known to complicate considerably uranium- and plutonium regeneration, since it contaminates the organic phase with β- and γ-activity (Ref 3). Its behavior is investigated only in the case of extraction with TBPh (Refs 2-5,7,8). It is dissolved in the form of nitrosonitrate complexes in the dissolution of uranium blocks in HNO_3. Therefore it was interesting to investigate the behavior of the first-mentioned substance in the extraction by

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butylphosphinic acid dibutyl ester (BADE) and dibutylphosphinic acid butyl ester (DABE) (Ref 3). The authors' experiments were made at the ratio 1 : 1 of the aqueous and the organic phase. The distribution coefficient was computed according to the formula $K_p = \dfrac{\text{specific } \gamma\text{-activity of the organic phase}}{\text{specific } \gamma\text{-activity of the aqueous phase}}$. Table 1 shows the K_p of ruthenium nitrosonitrate in the extraction with TBPh which was diluted by saturated high-boiling hydrocarbons (SHH). A comparison of the K_p values for TBPh with those for BADE shows that no abrupt difference is observed in the behavior of ruthenium nitrosonitrate due to the removal of an ester group from the molecule of the extracting agent. K_p increases, however, considerably in the extraction by DABE. The results graphically represented in figure 1 show that the K_p values of ruthenium for all esters do not differ much at low concentrations of the extracting agents in SHH; they increase considerably when the ester concentration rises and differ considerably from one another in pure extractors. Thus, the extraction of

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The Extraction of Ruthenium Nitrosonitrate by the   SOV/20-127-1-31/65
Esters of Butyl-phosphinic Acids

nitrosonitrate of radio-ruthenium in the series TBPh $<$ BADE $<$ DABE increases. Therefrom it follows that the reactivity of the free electron couple at phosphoryl oxygen increases with the reduction of the number of ester groups in the extracting agent molecule. This is caused by the reduction of the number of electron-accepting groups $(-O-C_4H_9)$, furthermore, by the

displacement of the electron cloud of the molecule to the phosphoryl oxygen on which the main interaction with the substance to be extracted depends (Ref 9). Therefrom it follows that the ability of the above discussed solvents to act as an extracting agent could be considerably increased if a better electron-emitting radical (Ref 11) were introduced in the place of the ester group. There are 1 figure, 1 table, and 11 references, 7 of which are Soviet.

ASSOCIATION: Institut neorganicheskoy khimii Sibirskogo otdeleniya Akademii nauk SSSR (Institute of Inorganic Chemistry of the Siberian Branch of the Academy of Sciences, USSR)

SUBMITTED: March 26, 1959
Card 3/3

5(2,3), 21(5)   SOV/20-127-3-27/71

AUTHORS: Nikolayev, A. V., Corresponding Member, AS USSR, Shubina,
              S. M., Sinitsyn, N. M.

TITLE: Extraction of Nitric Acid by Derivatives of Butylphosphinic
              Acids

ABSTRACT: The present information constitutes part of the work on the
              extracting properties of some butyl-phosphine compounds:
              tributylphosphate (TBPh), dibutyl ester of butylphosphinic
              acid (BPhSW), butyl ester of dibutylphosphinic acid (DPhBE)
              and tributylphosphine oxide (TBPhO). The acid derivatives
              mentioned in the title are more efficient as extracting
              agents than TBPh for important elements such as uranium and
              plutonium. Since this extraction is usually carried out from
              nitric solutions, it becomes necessary to investigate the
              distribution of HNO_3 in the aqueous solutions and the so-
              called organic solvents. No data have been published in this
Card 1/4   connection (except on TBPh, Refs 2-4). This gave reason for

the present investigation. The dependence of the HNO_3 distribution on the concentration of used extracting agents and on the presence of uranyl nitrate in the solution, was studied here. Saturated, highly boiling hydrocarbons (SHC) and CCl_4 were used as diluents of the extracting agents.

According to the data given by table 1 showing the experimental results, the extraction of HNO_3 increases with an

increased concentration of the extracting agent in the SHC. The HNO_3 extraction rapidly increases during the transition from TBPh to TBPhO in the series (Fig 1). An increase of more than 5o% of the concentration of BPhDE in the diluent, caused an abnormally reduced acid extraction, compared to other extracting agents of the same series (Fig 1 and Table 1). During the HNO_3 extraction with a 5% solution of TBPhO in

SHC a second organic phase was separated which apparently is a combination of TBPhO and HNO_3 (Ref 2). When CCl_4 was

Card 2/4   used, this second phase did not occur: Table 2 gives the

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extraction results by means of the same extraction agents,
in the presence of uranyl nitrate. Within the concentration
sphere of the extracting agent $0 \sim 50\%$, the HNO_3 extraction

is reduced according to the rule, in the series of TBPh
to TBPhO. This is probably due to the increase in the ex-
traction of the uranyl nitrate and thus also due to the
displacement of FNO_3 from the organic phase to the aqueous

phase. This displacement is the more intensive, the more
effective the extraction of the extracting agent of uranyl
nitrate (Tables 1 and 2). Consequently the presence of uranyl
nitrate influences HNO_3 extraction less and less with a

$\sim 50\%$ BPhDE concentration and is finally hardly noticeable.
All this proves that the extractability forms the following
series: TBPh < DPhBE < BPhDE < TBPhO: at the same time a combina-
tion of the acid and TBPhO can be isolated. Up to now it has
been impossible to explain the abnormal behavior of BPhDE

Card 3/4   in its relation to HNO_3 in the presence of uranyl-nitrate

Extraction of Nitric Acid by Derivatives of   SOV/2o-127-3-27/71
Butylphosphinic Acids

         as well as in its absence. There are 1 figure, 2 tables,
         and 4 references, 2 of which are Soviet.

ASSOCIATION: Institut obshchey i neorganicheskoy khimii im. N. S. Kurnakova
         Akademii nauk SSSR (Institute for General and Inorganic
         Chemistry imeni N. S. Kurnakov of the Academy of Sciences,
         USSR)

PRESENTED: April 27, 1959, by I. I. Chernyayev, Academician

SUBMITTED: April 27, 1959

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